

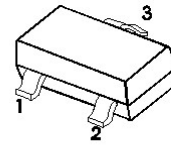
## SOT-23 Plastic-Encapsulate Transistors

### Features

- Complementary to MMBT3906K
- Power Dissipation of 200mW
- High Stability and High Reliability

### Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any



1. BASE  
2. EMITTER  
3. COLLECTOR

**SOT-23**

**Marking: 1AM**

### Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter -Base Voltage	$V_{EBO}$	6	V
Collector Current-Continuous	$I_C$	200	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55-+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	625	°C/W

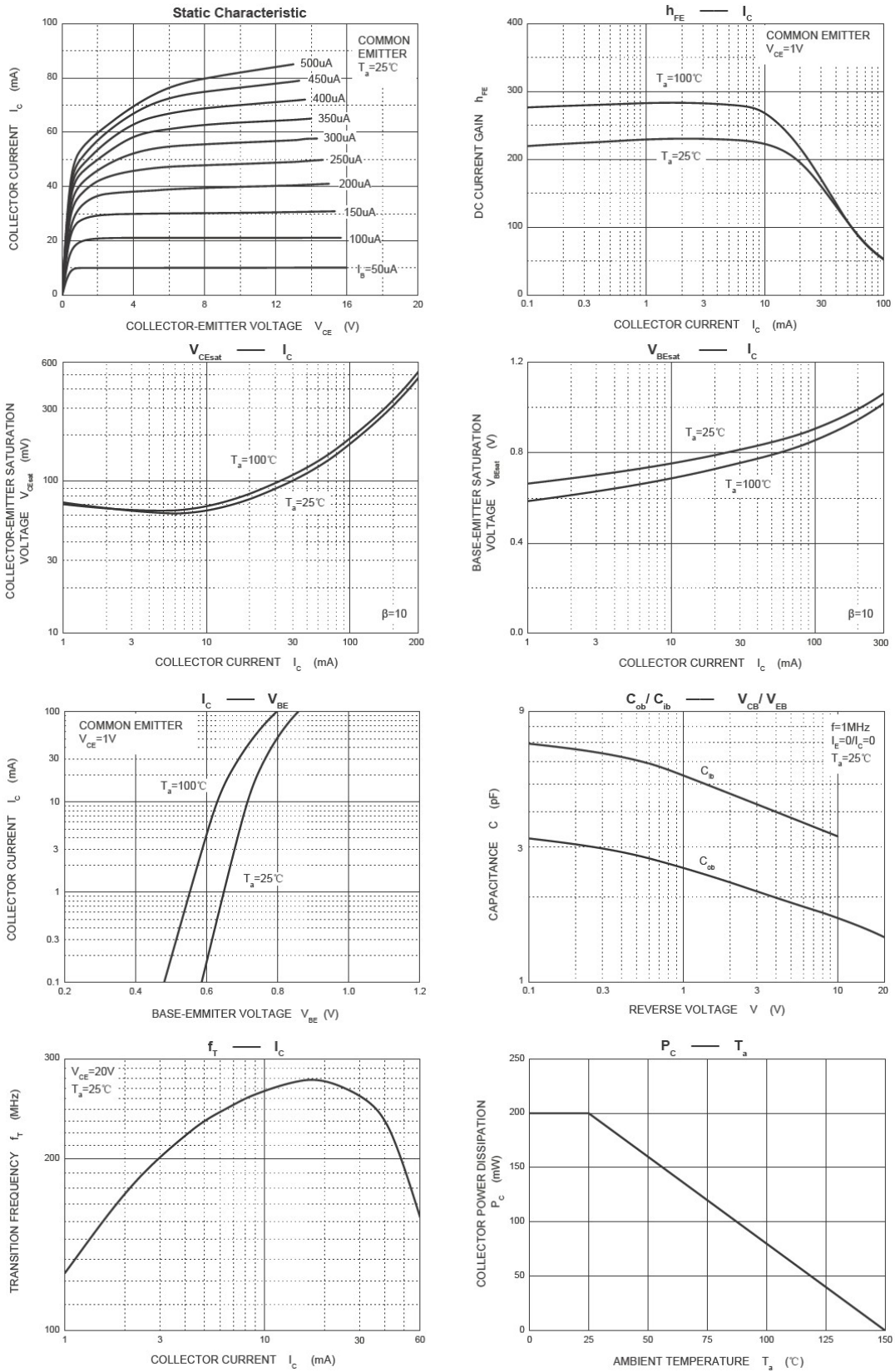
### Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6		V
Collector cut-off current	$I_{CEX}$	$V_{CE}=30V, V_{EB(off)}=3V$		50	nA
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$		100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$		100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=1V, I_C=10mA$	100	300	
	$h_{FE(2)}$	$V_{CE}=1V, I_C=50mA$	60		
	$h_{FE(3)}$	$V_{CE}=1V, I_C=100mA$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$		0.30	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=50mA, I_B=5mA$		0.95	V
Transition frequency	$f_T$	$V_{CE}=20V, I_C=10mA, f=100MHz$	300		MHz
Delay time	$t_d$	$V_{CC}=3V, V_{BE(off)}=-0.5V, I_C=10mA, I_{B1}=1mA$		35	nS
Rise time	$t_r$	$V_{CC}=3V, V_{BE(off)}=-0.5V, I_C=10mA, I_{B1}=1mA$		35	nS
Storage time	$t_s$	$V_{CC}=3V, I_C=10mA, I_{B1}=I_{B2}=1mA$		200	nS
Fall time	$t_f$	$V_{CC}=3V, I_C=10mA, I_{B1}=I_{B2}=1mA$		50	nS

### CLASSIFICATION OF $h_{FE(1)}$

HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

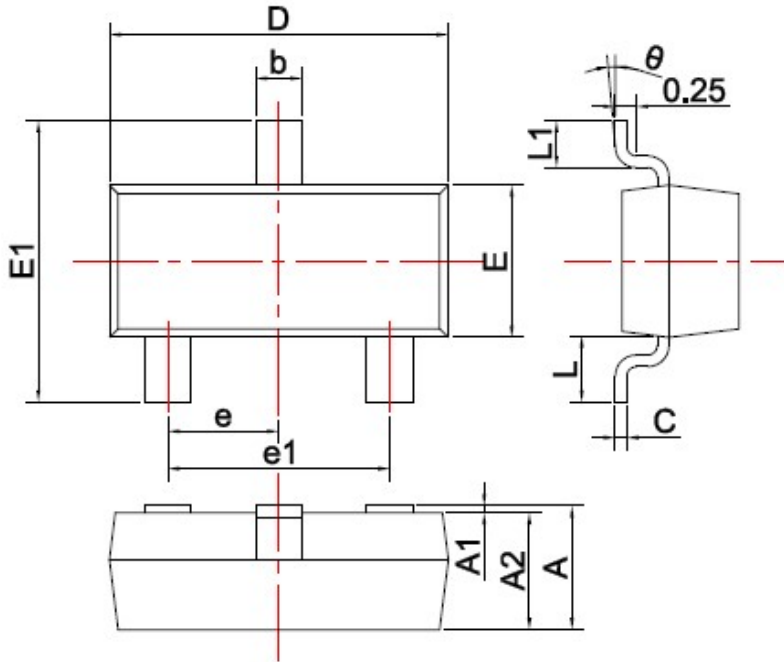
## Typical characteristics



## PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
$\theta$	0°	8°

Unit: mm